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NON-SILICON SEMICONDUCTOR AND HIGH-K GATE DIELECTRIC METAL
OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTORS

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ABSTRACT

A method for forming a transistor includes forming a gate dielectric layer over a portion of a semiconductor substrate, the substrate being substantially free of silicon; defining a gate electrode over a portion of the gate dielectric layer; and introducing ions into the substrate proximate the gate electrode to define source and drain regions. A transistor includes a semiconductor substrate that is substantially free of silicon and a gate dielectric layer over a portion of the substrate. The transistor can also include a gate electrode over a portion of the gate dielectric layer and introduce ions proximate the gate electrode, defining source and drain regions.

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